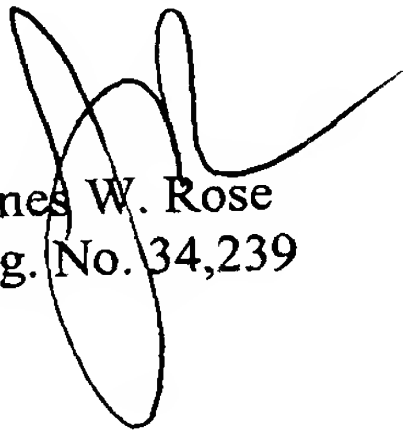


REMARKS

Applicant believes that all pending claims are allowable and respectfully requests a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

Respectfully submitted,
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204040 ET 609001

MARKED UP VERSION OF AMENDED SPECIFICATION AND CLAIMS

Please **replace** original paragraph [0007] with the following **amended** paragraph [0007]:

To achieve the foregoing and other objects and in accordance with the purpose of the present invention, an apparatus and method for forming a layer of underfill adhesive on an integrated circuit in wafer form is disclosed. In one embodiment, the layer of underfill adhesive is disposed and partially cured on the active surface of the wafer. Once the underfill adhesive has been partially cured, the wafer is singulated. The individual integrated circuits or die are then mounted onto a substrate such as a printed circuit board. When the solder balls of the integrated circuit are reflowed to form joints with corresponding contact pads on the substrate, the underfill adhesive is completely cured. In an alternative embodiment, the underfill adhesive is fully cured after it is disposed onto the active surface of the wafer. In various other embodiments, the underflow adhesive is disposed onto the wafer using stencil printing, screen printing, molding, or a spin on deposition process. The underflow adhesive is selected from a group of materials including, but not limited to, epoxies, poly-imides, or silicone-polyimides copolymers and includes one or more of the following components: epoxy resin, a hardener, a catalyst initiator, a coloring dye and an inorganic filler.

Please **replace** original paragraph [0011] with the following **amended** paragraph [0011]:

In the initial step as illustrated in Figure 2(a), a number of underbump metallization pads 110 are formed on the surface of the die 102. The underbump metallization pads 110 may be formed by a number of conventional processes. For example, a layer of solder or other conductive metal is applied on the surface of the die 102. The surface is then masked and etched, leaving the pads 110. In the next step as illustrated in Figure 2(b), solder paste islands 112 are formed on the pads 110. After the solder paste islands 112 are in place, corresponding solder balls 106 are formed by heating the wafer 100 causing the solder to reflow forming the solder balls 106. The resulting structure is illustrated in Figure 2(c). **[It is useful to note that the “bowl-like” shape underbump metallization pad 110 provides a barrier to the lateral flow of the solder paste during the reflow operation.]** The underbump metallization pad 110 also provides a barrier metal between the solder ball 106 and the interconnects within flip chip die 102.

28. [A]The apparatus of claim 19, wherein the layer of underfill adhesive [is substantially opaque thereby protected the flip chip integrated circuit from photo induced leakage currents by blocking visible light]formed on the active surface of the flip chip integrated circuit has a height less than the height of the solder bumps.

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